

## ABSTRACT OF THE DISCLOSURE

### METHOD AND SYSTEM FOR CONTROLLING ADDITIONS OF POWDER MATERIALS INTO THE BATH OF AN ELECTROLYTIC CELL INTENDED FOR ALUMINIUM PRODUCTION

This invention relates to a method for controlling additions of powder materials into an electrolytic cell designed for the production of aluminium by fused bath electrolysis and provided with at least one powder material distributor and at least one boring device (30) comprising an actuator (31) and a crustbreaker (33), in which at least one opening is formed in the crust of the solidified bath using the boring device and powder material is added through at least one opening using a procedure said to be a "normal feed procedure", in which at a determined instant  $t_0$ , an electrical signal is generated that will make the actuator (31) lower the crustbreaker, the moment  $t$  at which the crustbreaker (33) reaches a determined low position is measured, the value of at least one feed operation indicator  $F$  is determined from the value of  $t_0$  and the value obtained for moment  $t$ , at least one operation criterion and the value of the operation indicator(s) are used to determine whether or not operation is abnormal, if operation is not considered to be abnormal, the normal feed procedure is kept unchanged; if operation is considered to be abnormal, at least one correction procedure called a "regularisation / normalisation" procedure is triggered to restore the powder material feed to normal operation.

The method according to the invention, which can easily be automated, can be used to maintain monitoring of operation of the feed even during anode effects.

Figure 3.